OPEN POSITIONS FOR INCOMING STUDENTS
TSR-LAB – Applied EM

Universidad del País Vasco
Euskal Herriko Unibertsitatea

Title: Antenna design for wireless body area networks

Name of the hosting institution: University of the Basque Country UPV/EHU
Supervisor: Marta Fernandez Andres and Amaia Arrinda Sanzberro
Email: marta.fernandeza@ehu.eus, amaia.arrinda@ehu.eus TSR Research lab
https://www.ehu.eus/en/web/tsr-lab
Location: Escuela de Ingeniería de Bilbao, BILBAO https://maps.app.goo.gl/PBFzpxRhPpX6wetv5
Specific requirements (for instance: nationality, driving licence): N/A
Aims of the traineeship/thesis: Many research works are being carried out to enhance the performance of antennas working close to or even inside the body, targeting different applications such as entertainment or healthcare. In this Master Thesis an antenna suitable for Wireless Body Area Networks (WBAN) will be design using the ADS or CST Studio software, which will allow to simulate antenna's properties in WBAN. After achieving the expected results in simulations, the antenna will be manufactured, and experimental measurements will be performed to analyze antenna properties and compare with simulations. Some previous works related to the proposal:

[1] Wearable slot antenna at 2.45 GHz for off-body radiation: Analysis of efficiency, frequency shift, and body absorption. Marta Fernandez, Hugo G. Espinosa, David V. Thiel, Amaia Arrinda. Bioelectromagnetics, vol. 39, n. 1, pp. 25-34, 2017
[2] An Inward Directed Antenna for Gastro-intestinal Radio Pill Tracking at 2.45 GHz. M. Fernández, D. Thiel, A. Arrinda, H. Espinosa. Microwave and Optical Technology Letters, Volume: 60, Issue 7, July 2018, Page(s) 1644-1649

Possibility of a scholarship for the Bachelor/Master's thesis: yes
PhD thesis opportunity after the Master course: Depending on the results

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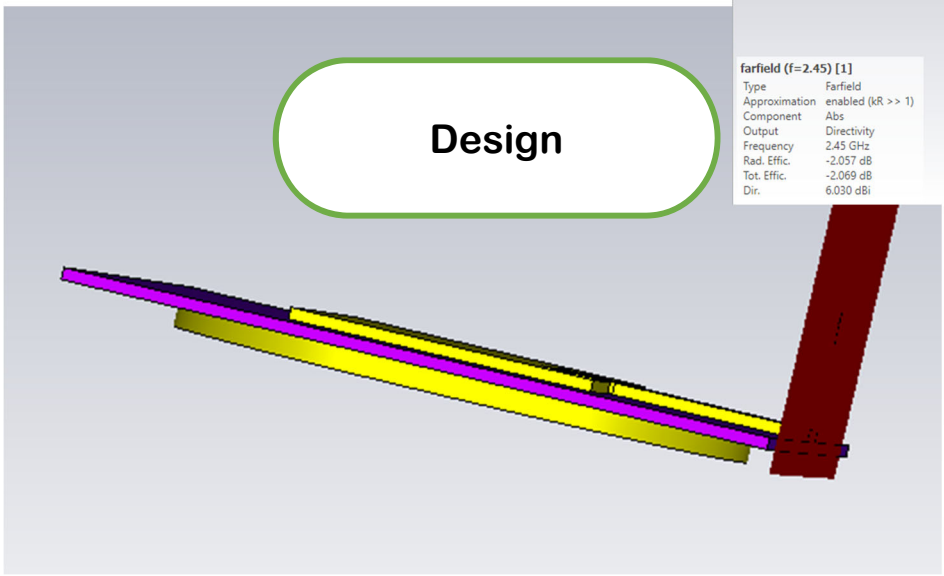
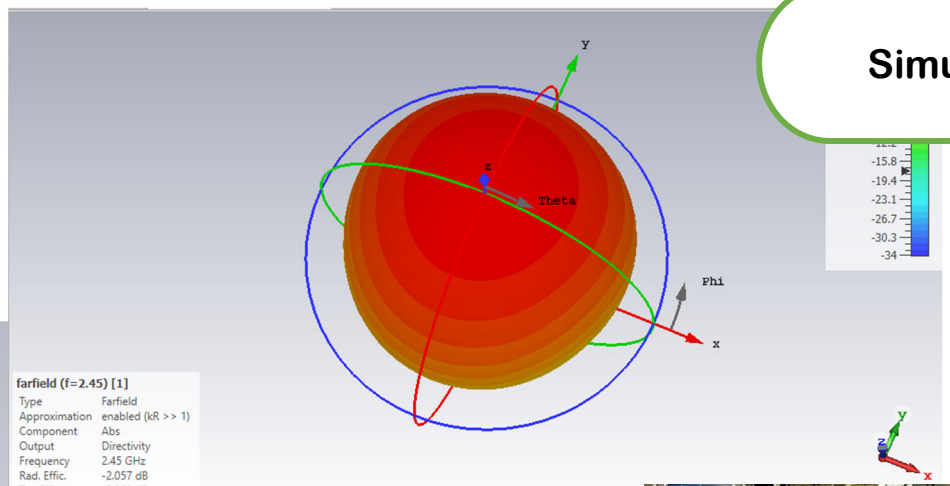
Specifications

Bibliography

Design



Simulations



Measurements